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EXAMINER

HUSON, MONICA ANNE

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID NAGI and NELSON WILLIAMS

Appeal 2009-009865
Application 10/710,259
Technology Center 1700

Before CATHERINE Q. TIMM, LINDA M. GAUDETTE, and
MARK NAGUMO, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision² finally rejecting claims 1, 3, and 6-11, the only claims pending in the Application.³ We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Claim 1, the sole independent claim, is representative of the invention and is reproduced below from the Claims Appendix to the Appeal Brief:

1. A method for plastic injection molding a component plastic molded part for a vehicle comprising:

providing a mold cavity to form a plastic molded part with a predetermined surface area;

injecting a quantity of plastic material into said mold cavity, the quantity of said plastic material being less than the full amount to fill the cavity;

moving a piston member in said cavity in order to reduce the cross section of the mold cavity at least at 50% of the surface area and to force said quantity of plastic material to fill the remaining space in the mold cavity;

said cross-section not being reduced in at least one area where structural support is needed for subsequent mounting of an accessory member;

allowing the plastic material to cool in the mold cavity; and

ejecting the molded part from the mold cavity,

wherein the molded part has thin walled sections at least at 50% of its surface area and the formation of knit lines is minimized.

The Examiner relies upon the following references:

² Final Office Action ("Final"), mailed Apr. 8, 2008.

³ Appeal Brief ("App. Br."), filed Sep. 11, 2008.

Kreuttner	4,447,372	May 8, 1984
Sasaki	5,500,166	Mar. 12, 1996
Hiroi	US 7,303,719 B2	Dec. 4, 2007

The Examiner maintains the following ground of rejection: claims 1, 3, and 6-11 under 35 U.S.C. § 103 as unpatentable over Sasaki in view of Kreuttner, further in view of Hiroi. (Ans.⁴ 3-5.)

The Examiner relies primarily on Sasaki for a teaching of Appellants' claimed method. (Ans. 3-5.) The Examiner concedes that Sasaki does not explicitly disclose reducing the cross section of the mold cavity in the manner claimed. (Ans. 3.) The Examiner thus turns to Kreuttner for a teaching that "it is known to carry out a method wherein the cross section of the mold cavity is reduced by movement of a piston member in the mold cavity." (Ans. 3-4 (citing Kreuttner, col. 3, ll. 3-30 and 54-59).) The Examiner concludes "[i]t would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Kreuttner's pistons in the mold cavity during Sasaki's molding process in order to produce an article with a specific desired surface." (Ans. 4.) The Examiner relies on Hiroi for a teaching "that it is known to carry out an injection compression process wherein only selected areas are compressed, and the cross section of the article is not reduced in at least one area where structural support is needed for subsequent mounting of an accessory member." (Ans. 4 (citing Hiroi Figure 2, description of boss area).) The Examiner concludes "[i]t would have been prima facie obvious . . . to use Hiroi's selective compression step during Sasaki's molding process in order to maintain the stability and strength of a molded article in structural support

⁴ Examiner's Answer, mailed Nov. 21, 2008.

areas while allowing compression and the advantages therewith of other areas.” (Ans. 4.)

Appellants’ arguments raise the following issues for our consideration:

1. Did the Examiner err in finding that the combined teachings of the references suggest “moving a piston member” to “reduce the cross section of the mold cavity” and form a molded part having “thin walled sections” as recited in claim 1? (*See App. Br. 5-6 (bridging para.).*)

2. Is Hiroi non-analogous art, such that it was improper for the Examiner to rely on Hiroi for a teaching of selectively compressing only a portion of the material in the mold cavity? (*See App. Br. 6 (first full para.).*)

We answer both of these questions in the negative for the reasons explained below.

Sasaki discloses an injection molding process which results in “the molding of a thin wall from a plastic material having a low fluidity.” (Col. 11, ll. 63-65.)

Kreuttner discloses a method and apparatus for molding thermoplastic parts having aspherical surfaces. (Abstract.) Kreuttner discloses that a desired deformation of surfaces is predeterminable by specifying parameters such as “thickness of the involved molding plate or plates, material of the molding plates, . . . die-clamping conditions, and the pressure within the molding cavity during the molding process.” (Col. 3, ll. 20-30.) According to Kreuttner, “the parameters can be so selected as to enable molding a product with two different aspherical surfaces.” (Col. 3, ll. 31-33.) Kreuttner discloses the use of “two elastically mounted auxiliary pistons [] which are also connected to a hydraulic actuating system” which allow for

“different pressures or variations in pressure . . . to achieve particular aspherical surfaces of non-rotational symmetry.” (Col. 3, ll. 54-59.)

Hiroi “relates to a synthetic resin molded article having a disk configuration, and particularly, to a disk-shape resin molded article having a high mechanical strength and dimensional precision.” (Col. 1, ll. 13-16.)

Issue 1

We have considered Appellants’ argument that “[n]either [Sasaki nor Kreuttner] disclose[s] or suggest[s] a moveable piston member in a mold cavity for creating thinner sections or portions in a plastic molded product in order to utilize less material and save molding time and expense.” (App. Br. 5-6.) However, this argument fails to persuade us of harmful error in the Examiner’s obviousness determination because Appellants do not specifically identify error in the facts and reasons relied on by the Examiner.

In our view, the Examiner’s fact finding and reasoning with respect to Sasaki and Kreuttner is clearly supported by the evidence of record. In particular, we find the relied upon prior art supports the Examiner’s determination that reducing the cross section of Sasaki’s mold cavity to form thin walled sections as claimed in claim 1 would have been a matter of routine optimization. Sasaki discloses an injection molding process capable of forming thin walls and Kreuttner’s disclosure supports the Examiner’s finding that wall thickness of a molded part is a result effective variable (*see* Kreuttner noting deformation is predeterminable *supra* p. 4). We further find the Examiner provided a reasonable basis for concluding that it would have been obvious to have used Kreutner’s piston arrangement in Sasaki’s mold cavity in order to produce an article with a specific desired surface (*see*

e.g. Ans. 4 (“to produce an article with a specific desired surface”) *supra* p. 3).

Issue 2

Appellants argue that Hiroi “is specifically related only to the molding of a circular or toothed gear member” and “[i]t is only with hindsight based on the Applicant’s teaching that this reference could possibly be combined with the other two references.” (App. Br. 6.)

A reference is considered analogous art if “even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992); *see also, KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007) (“Common sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle”).

We do not agree with Appellants’ characterization of Hiroi’s teaching as being limited to molding of a gear member. Rather, we find Hiroi is more broadly directed to improving mechanical strength of parts formed by injection molding. (*See* above citation to Hiroi *supra* p. 5.) In our view, the Examiner provided a reasonable basis for determining that one of ordinary skill in the art, in developing a method of producing thin walled injection molded parts for a vehicle, would have looked to Hiroi and would have been motivated to modify Sasaki’s method based on Hiroi’s disclosure in the manner proposed by the Examiner (*see e.g.* Ans. 4 (“in order to maintain the

stability and strength of a molded article”) *supra* pp. 3-4). Appellants’ general assertion of error on the part of the Examiner is unconvincing.

Other Issues

Any remaining arguments raised by Appellants have been fully addressed by the Examiner, and are unpersuasive of harmful error in the Examiner’s obviousness determination for the reasons explained in the Answer. (*See* Ans. 3-7.) We note, for example, Appellants generally assert that the combined teachings of the references fail to disclose or suggest the features recited in each of the dependent claims. (*See* App. Br. 6-8.) However, Appellants have not specifically identified error in the facts and reasons relied on by the Examiner in determining that each of the dependent claims would have been obvious (*see* Ans. 4-5). (Ans. 7 (addressing Appellants’ assertions as to the dependent claims).) Moreover, “[a] statement which merely points out what a claim recites [is not] considered an argument for separate patentability of the claim.” 37 C.F.R. § 41.37(c)(1)(vii).

For the foregoing reasons, we affirm the rejection of claims 1, 3, and 6-11 under 35 U.S.C. § 103 as unpatentable over Sasaki in view of Kreuttner, further in view of Hiroi.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED

sld

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